

AMENDMENTS TO THE CLAIMS

1. **(Amended)** A method of detecting binding between a putative ligand and a selectively labeled target molecule, wherein the target molecule comprises a plurality of amino acid moieties including at least one tryptophan moiety, and wherein at least the tryptophan moiety is selectively labeled, which method comprises: a) generating a first NMR spectrum of said target molecule; b) forming a mixture of said target molecule with at least one putative ligand; c) generating a second NMR spectrum of the mixture of step (b); and d) comparing the first and second spectra.

2. **(Amended)** The method of claim 1, wherein the tryptophan moiety is labeled with a nuclei nucleus selected from the group consisting of ^1H , ^{13}C , ^{15}N , and ^{19}F .

3. **(Original)** The method of claim 1, wherein the selectively labeled target molecule is selected from the group consisting of lipoproteins, lipoprotein fragments, glycoproteins, glycoprotein fragments, proteins, protein fragments, and polypeptides.

4. **(Original)** The method of claim 3, wherein the selectively labeled target molecule is selected from the group consisting of proteins, protein fragments, and polypeptides.

5 - 9 **(Cancelled)**

10. **(New)** The method of claim 1, wherein the entire backbone of the target molecule is not labeled.

11. **(New)** The method of claim 1, wherein the tryptophan moiety is labeled with ^1H .

12. **(New)** The method of claim 1, wherein the tryptophan moiety is labeled with ^{13}C .

13. **(New)** The method of claim 1, wherein the tryptophan moiety is labeled with ^{15}N .

14. **(New)** The method of claim 1, wherein the tryptophan moiety is labeled with ^{19}F .

15. **(New)** The method of claim 1, wherein the target molecule comprises a selectively labeled amino acid moiety that is at a functional site of the target molecule.

16. **(New)** The method of claim 15, wherein the selectively labeled amino acid is tryptophan.

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17. (New) A method of detecting binding between a putative ligand and a selectively labeled target molecule, wherein the target molecule comprises a plurality of amino acid moieties including at least one tryptophan moiety, and wherein at least the side chain of at least the tryptophan moiety is labeled, which method comprises: a) generating a first NMR spectrum of said target molecule; b) forming a mixture of said target molecule with at least one putative ligand; c) generating a second NMR spectrum of the mixture of step (b); and d) comparing the first and second spectra.
18. (New) The method of claim 17, wherein the tryptophan moiety is labeled with ¹H.
19. (New) The method of claim 17, wherein the tryptophan moiety is labeled with ¹³C.
20. (New) The method of claim 17, wherein the tryptophan moiety is labeled with ¹⁵N.
21. (New) The method of claim 17, wherein the tryptophan moiety is labeled with ¹⁹F.
22. (New) The method of claim 17, wherein the selectively labeled target molecule is selected from the group consisting of lipoproteins, lipoprotein fragments, glycoproteins, glycoprotein fragments, proteins, protein fragments, and polypeptides.
23. (New) The method of claim 22, wherein the selectively labeled target molecule is selected from the group consisting of proteins, protein fragments, and polypeptides.
24. (New) The method of claim 17, wherein the target molecule comprises a selectively labeled amino acid moiety that is at a functional site of the target molecule.
25. (New) The method of claim 24, wherein the selectively labeled amino acid is tryptophan.